Automatic Levothyroxine Dosing Algorithm for Patients Suffering from Hashimoto's Thyroiditis

Hashimoto's thyroiditis is the primary cause of hypothyroidism, resulting in insufficient thyroid hormone production. Treatment involves achieving desired hormone levels through the oral intake of thyroxine hormone, primarily levothyroxine. In this study, a patient-specific levothyroxine dosage has been identified using a model-based control strategies. Current ongoing research activities are:

- Using machine learning to develop a predictive model from the data.

- A data-driven predictive model will be employed to design control strategy.

- Exploiting the knowledge of control theory to ensure the stability of the designed data-driven control strategy.

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